

## POSTSCRIPT.

Received June 14, 1871.

After the completion of the above paper, the author found that Mr. Shanks had, in second, third, and fourth supplementary papers on the Constant\*, extended his calculations so as to determine  $\gamma$  from  $x=2000$ , 5000, and 10,000.

The values so obtained all differ in the sixtieth decimal; in fact the higher  $x$  is taken, the further from the truth are the results, as the errors in the logarithms are multiplied by larger factors.

The calculation for  $x=2000$  affords a verification of the error of  $\log 2$ ; for on subtracting the value of  $\gamma$  ( $x=1000$ ) from  $\gamma$  ( $x=2000$ ), we obtain (after correcting  $B_{13}$ ) a result agreeing with E to 80 decimal places (which is as far as Mr. Shanks has calculated the latter value of  $\gamma$ ), with the exception of a difference of a unit in the 73rd figure—an error probably in the summation of the harmonic series from 1000 to 2000.

The values for  $x=5000$  and  $x=10,000$  are (besides the errors previously noticed) inaccurate from the 62nd figure.

VIII. "Records of the Magnetic Observations at the Kew Observatory. No. IV.—Analysis of the principal Disturbances shown by the Horizontal and Vertical Force Magnetometers of the Kew Observatory from 1859 to 1864." By General Sir EDWARD SABINE, K.C.B., President. Received June 15, 1871.

(Abstract.)

This paper exhibits an analysis of the principal disturbances recorded by the horizontal and vertical force self-recording magnetometers of the Kew Observatory in the years 1859 to 1864, showing the progressive diminution in the number and value of the disturbances from a maximum in 1859 to a minimum in 1863, being the first moiety of the "decennial period;" and showing also the distribution of the disturbances, increasing or diminishing the respective forces, in the several years, months, and hours.

IX. "Amended Rule for working out Sumner's Method of finding a Ship's Place." By Prof. Sir WILLIAM THOMSON, F.R.S. Received June 15, 1871.

In my previous communication on this subject (*antea*, p. 259) I described a plan according to which, in the first place, two auxiliary lines were to be drawn on the chart, from two sets of numbers taken out of a proposed Table, and then Sumner's line (the line on which the observation shows the ship to be) was to be interpolated, dividing the space between them in the proportion of the differences of the sun's decli-

\* Proc. Roy. Soc. vol. xvi. pp. 154, 299, vol. xviii. p. 49.